

# Goals of Achievement in Physical Exercise for Students of Fifth Grade through Interdisciplinary Programs

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**ABSTRACT---** *The aim of the research was the development of achievement goals in physical activity and exercise in fifth grade students through the implementation of interdisciplinary programs. The sample consisted of 97 pupils of two multiple office primary schools in a provincial city of Macedonia. The choice of schools was in random and in groups. We got the necessary permits and then the students were divided into experimental group and control groups. We also, selected the questionnaire to guide the ego and work (Task and Ego Orientation in Sport Questionnaire - TESQ) of Duda (1989). As the requirements, it was attempted all the cross cutting programs be realistic and targeted to physical activity and exercise. The operation lasted one school year and every week planned and executed two instructional approaches (two hours each). Each two-hour teaching approach consisted of one hour of physical education and one hour of Flexible zone. In order to control these cases we used at the beginning the One Way ANOVA and finally, the Repeated ANOVA on both subscales. The results showed that the interdisciplinary intervention programs shaped significantly positive ego orientation and to work orientation to children. It is believed that properly formed interdisciplinary programs can improve children's physical activity.*

**Keywords---** Interdisciplinary, Goals achievement, ego orientation, orientation to work

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## 1. INTRODUCTION

The last 25 years the most widespread motivation theory is the theory of goal orientations (Nicholls, 1989). According to Roberts (2001), there are more than 160 studies around the world based on this theory. The motivation of people who engaged in physical activity and exercise depends on both the personality and the environment in which they play sports. To the theory of goal orientations there two personality traits of individuals that affect children's motivation: a) the goal for personal improvement and b) the goal for strengthening (or protection) of their ego. In the literature we can find these terms as guidance for improving or orientation at work or orientation on learning and ego orientation or goal of achieving capacity. People who emphasize thire work aimed to improve their skills and their personal performance. They are characterized as people who are trying hard to improve their skills and performance. People who are oriented to their ego and who primarily aim the achievement of competencies. Their main concern is to look better than others.

### 1.1 Importance of research:

The public health perspective or the strengthening of exercise habits through knowledge of the factors that affecting it, but also the Proper Way of motivation could be one of the strongest factors for a better life for children today. Furthermore, this habit may be transposed into children's adulthood (Dishman, et.al., 1985). Generally school is considered a treasured space to implement intervention programs aimed at physical activity and exercise, as these programs may be directed to a large number of students and in fact this approach can be multifaceted (interdisciplinary) (Theodorakis, Kosmidis, Hassandra & mortar 2008). Children who know how to learn motor skills and participate in physical activities and exercises are more likely to adopt an athletic lifestyle outside of school and later as adults (Theodosiou & Papaioannou, 2006). As a result, It is obvious that strengthening factors that promote self-regulation strategies and highlight their importance in physical education lesson, can be very useful since many of them can be applied effectively to achieve their goals (orientation to ego and to work on physical activity and exercise) that improve

the quality of life.

### **1.2 Theoretical Approach**

We now know that athletes who have particular focus on personal improvement is internally motivated, while athletes who have the primary objective of achieving ego is primarily externally motivated (Duda & Hall, 2001). Based on these reported in order to have high motivation in physical activity and exercise, you need to cultivate the goal for personal improvement and internal motivation. The strengthening of the goals improves and demonstrate their skills that depends on the environment in which children live and exercise. So we understand how important is the role of teachers" (Papaioannou, 2000). When teachers emphasize job, helping each child to improve his personal performance, then it is cultivated an environment that encourages children to try to improve more their performance. On the other hand, if the teacher is only interested in the best students then they create an atmosphere where the objective is the promotion of ego. Based on data of hundreds of research considered that the objective of personal improvement and creating a climate that emphasizes group work has positive effects on mobilization of athletes (Theodosiou & Papaioannou, 2006; Simos & Papaioannou, 2008). Children who play sports when aiming to improve personal feel to follow effective strategies to concentrate on coaching (Ommundsen & Roberts, 1999) and bring high performance (Van Yperen & Duda, 1999; Ntoumanis & Biddle, 1999).

On the other hand, despite the hundreds of studies done so far, children who have a strongly oriented ego do not appear to be characterized by higher mobilization in sport (Duda & Hall, 2001). In contrast, the strong ego orientation appears to assist in the adoption of inefficient strategies (Thill & Brunel, 1995; Roberts & Ommundsen, 1996) and it is connected to factors that increase the stress of children (Duda & Hall, 2001). Also, all the studies show that ego orientation fosters immoral, aggressive and risky health behavior in sport (Duda, 2001). These data suggest that teachers and parents should not try to boost the ego of children. Even those who ignore moral issues and the health of children should be aware that trying to boost the "competitiveness" of children what they ultimately succeed is to reduce intrinsic motivation and sense of autonomy of children, and to make them feel that they do not completely control things around them and direct them towards the adoption of inefficient strategies (Digelidis, Kostaki & Papaioannou, 2005).

The purpose of the research was the development of achievement goals in physical activity and exercise in fifth grade students through the implementation of interdisciplinary programs.

### **1.3 Formulate the hypothesis**

It is believed that participation in interdisciplinary programs will reduce the ego orientation (pronounced egocentricity) and improve the orientation at work (work) of students in the experimental group more than students in the control group.

## **2. METHODOLOGY**

The sample consisted of 97 children in primary school, two elementary schools many-position of a provincial town taking part in the interdisciplinary program. Students of a school, 48 children constituted the experimental group, while students of the other school 49 children, were the control group. The two schools were selected by sampling in groups. As the key criteria for selecting the sample class C grade we used, the same level of performance to the performance of the questionnaire (same baseline) and the number of the sample according to the number of variables.

Through the data collection: we chose a questionnaire for the ego orientation and work orientation (Task and Ego Orientation in Sport Questionnaire - TESQ) of Duda (1989). The questionnaire translated and adapted in Greek language by Papaioannou & McDonald (1993). In TESQ (13 questions) included two independent subscales, which measure individual differences related to the orientation of the ego (the self-centeredness with 6 questions) and orientation to work (work with 7 questions) regarding physical activity and exercise. The answers are in type five-point scale Likert ((5 = strongly agree, 4 = agree, 3 = no opinion, 2 = disagree, and 1 = strongly disagree). TESQ The scale of Duda seems to be the most appropriate because it was designed to examine the attitude towards physical activity and exercise. Psychometric characteristics of the questionnaire have been tested in numerous studies and they are satisfactory (Papaioannou, 2000b). Questionnaire ego orientation and work orientation presented reliability ( $\alpha = 0,84$ ) and validity ( $r = 0,83$ ).

Process of data collection: The children, informed about 10 minutes to the questionnaire would answer for the rest of the teaching period from the same individual (informant). Throughout the hour explanations given in the same manner in all segments. Once the child finished the questionnaire paretine the informant and the officer continued to deal for the rest of the hour with another silent work of their choice. All children who participated in the program had a medical certificate proving their physical health and allowed physical activity and exercise. There was also a signed permission to participate in the program by their parents and guardians. The approval of the program provided by the competent institutions of education. The children answered the questionnaire ego orientation and work orientation on the fourth week of September. (Baseline) and after answered the questionnaire during the fourth week of May (final measurement).

The interdisciplinary interventionist program: The intervention lasted one school year and each week planned and executed two teaching approaches-meetings (200 each). The two hours of each teaching approach consisted of one hour of Physical Education and 1 hour Flexible Zone. Throughout the 36-week intervention period had been 71 meetings.

The interdisciplinary approach: achieved through the interconnection of two axes, vertical and horizontal axis. The vertical-axis internal integration: The skills to physical activity and exercise facilitated the development of psychological skills needed to handle the needs and challenges of everyday life. It was physical, emotional and cognitive skills such as self-regulation, problem solving, positive self-talk, visualization, progressive relaxation, meditation, etc. These skills are taught in physical education, with demonstration and practice, as well as the physical skills to be transferred then to other areas of life of students (Danish, 2000; Papaioannou, Theodorakis, & Goudas, 2003).

Development of responsible personal and social behavior: The environment of physical activity and exercise is considered very favorable for moral and social development of students. Concepts such as proper behavior, cooperation, acceptance of differences, developing positive attitudes, respect for others and the environment, taught to the students in a positive learning environment with appropriate quality characteristics through interdisciplinary intervention programs.

Creating and sustaining positive change incentives: It is formed a learning environment, emphasizing the personal development of each student based on their individual performance, avoided or modified competitive activities so all students had chances, maximization of school time learning, participation in decision decisions. It was implemented student-centered teaching methods (reciprocal teaching method of self, method of differentiating the degree of difficulty).

Apply contents of properly designed programs - models: students participated in setting the rules. There was: a) the application of fair consequences for breaching them, b) to reward desired and appropriate prevention or treatment of undesirable behaviors, c) significant effort was made to avoid as much as was biased tendencies and d) treated all students and individually with respect (Hellison, 1995). It was encouraged the moral reflection (fair play, equality, respect for others, correctly resolving ethical dilemmas: eg in a football game deliberately ignored by the teacher breaches of pupils, students were anxious about whether we should declare or not the infringement that made and realized experientially proper and fair conduct towards ourselves to their teammates, the "opponents" and the game in general).

Horizontal axis - Outdoor consolidation: Physical activity and exercise along with other content such as math, physics, language, or social sciences and generally all classes of elementary school were perceived in two ways. The first concerned the integration of physical activity and exercise in other cognitive content, while the second incorporated content from other academic content areas of physical activity and exercise in order for students to learn science topics such as mathematics, physics, languages, social sciences etc.

Statistical analysis: For the control cases used for the initial measurement of September, the statistical model analysis of variance with a dependent variable and an independent factor in both subscales. While, as to the actual measurement of May, the statistical model was used repeated analysis of variance with one dependent variable and an independent agent again and the two subscales. In the presentation of results by the independent factor was "the groups with two levels: experimental - control", while the dependent variable was the first subscale of the 'ego orientation' and the second 'orientation to work. "

### 3. RESULTS

The results show that relative to the first subscale: the ego orientation confirmed the research hypothesis (Table 1).

**Table 1:** Initial and final measure of the variable: ego orientation.

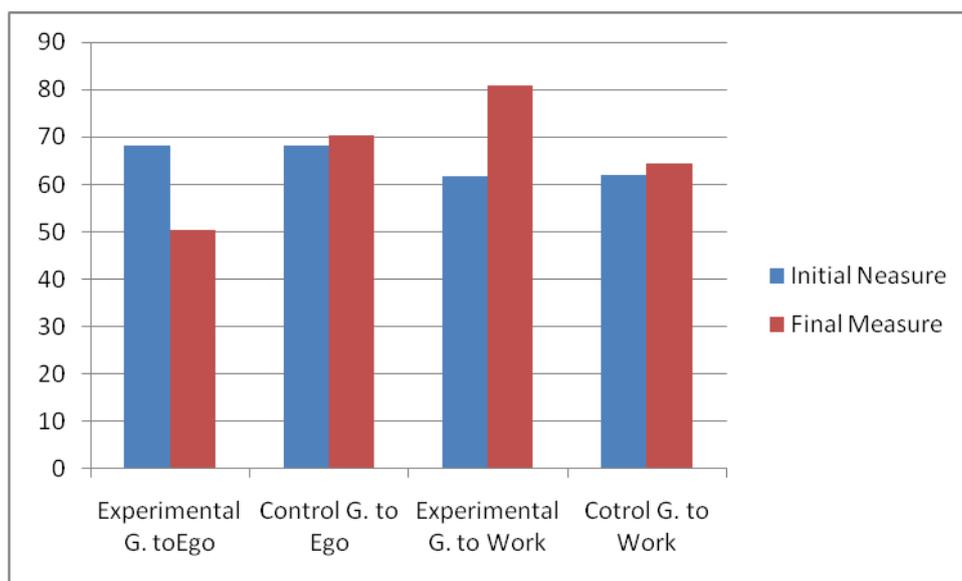
<i>Orientation</i>	<i>Groups</i>	<i>Initial Measure</i>		<i>Final Measure</i>		<i>Difference A. Final-Initial</i>
		<i>A.</i>	<i>S.D.</i>	<i>A.</i>	<i>S.D.</i>	
Ego Orientation	Experimental Group	20,48	4,07	15,13	4,96	-5,35
	Control Group	20,45	4,05	21,08	4,43	+0,63
	Initial Measure			Final Measure		
Statistical Models	F(1,95)=0,001 ; p=0,97			Variable F(1,95)=239,55 ; p<0,001		
				Interaction F(1,95)=385,15 ; p<0,001		
				Groups F(1,95)=11,39 ; p<0,001		

During the initial measurement no significant difference in the groups (experimental and control,  $p = 0,97$ ), but the final measure in the same subscale in all measurements was no significant difference between the experimental group and the control group ( $p < 0,001$ ). Furthermore, there was presented significant improvement due to the intervention program between measurements (initial - final) the dependent variable ( $p < 0,001$ ). Finally significant difference was found in the course of learning the ego orientation between groups (experimental - control,  $p < 0,001$ ). The students in the

experimental and the control group in the initial measure of the same starting point to the ego orientation (68.3% and 68.2% respectively), but in the final measure the children in the experimental group appeared to exhibit moderate ego orientation 50.4%, while children in the control group exhibit more intense ego orientation 70.3% (Graph). As for the second subscale: work orientation seems to confirm the research hypothesis (Table 2). During the initial measure no significant difference in the groups (experimental and control,  $p = 0,87$ ), but the final measure in the second subscale of all measurements was no significant difference between the experimental group and the control group ( $p < 0,001$ ). Furthermore it was presented significant improvement due to the intervention program between measurements (initial - final) the dependent variable ( $p < 0,001$ ). Finally it was found a significant difference in the evolution of learning in the orientation slavery between groups (experimental - control,  $p < 0,001$ ). In the initial measure, students of the experimental and the control group had the same starting point to the orientation (61.7% and 62.0% respectively), but in the final measure children in the experimental group appears to exhibit high levels of \_ orientation 80 8%, while children in the control group show very good levels of 64.5% (Graph).

**Table 2:** Initial and final measure of the variable: Orientation to work.

<i>Orientation</i>	<i>Groups</i>	<i>Initial Measure</i> <i>A. - S.D.</i>	<i>Final Measure</i> <i>A. - S.D.</i>	<i>Difference A.</i> <i>Final-Initial</i>
Orientation to Work	Experimental Group	21,58 - 3,27	28,27 - 3,55	+6,69
	Control Group	21,69 - 3,17	22,57 - 4,15	+0,88
Statistical Models	Initial Measure		Final Measure	
	F(1,95)=0,029 ; $p=0,87$		Variable F(1,95)=452 ; $p<0,001$	
			Interaction F(1,95)=266,67 ; $p<0,001$	
			Groups F(1,95)=15,92 ; $p<0,001$	



**Figure 1:** Initial and Final measurement of variables ego orientation and orientation to work.

#### 4. DISCUSSION

The results seem to confirm the research hypotheses equally the orientation of the ego and to the orientation of the work. After the teaching approaches of the interdisciplinary programs, it seems that the achievement of goals in the orientation of the ego (intense self-centeredness) was significantly decreased to the students of the experimental group compared with students in the control group (Table 1), where the experimental group decreased by 17.9% the ego orientation in contrast to the control group that increased it by 2.1% (Graph). Also, students in the experimental group after the implementation of the intervention program were significantly improved in the orientation at work compared with the control group (Table 2) where the experimental group increased by 19.1% in work orientation compared with the control group that increased by 2.5% (Graph).

The perceptual ability of the individual is a mediating factor that affects the relationship of the orientation of the achievement and the effort that a person does at a particular skill (Van Yperen & Duda, 1997). Papaioannou and Goudas (1999), mention “The motivational climate in physical education consists of those factors that influence the orientation of pupils in a skill”. The way in which students perceive climate mobilization in class is crucial for their participation in this and directly dependent on the way in which the teacher tries to develop it. The perception of environmental achievement enhances the orientation at work or ego respectively (Ames, 1992).

The Weigand and Burton (2002), studied the effect of differentiation of climate mobilization in perceptual ability of students, the orientations of achievement and the perceptual satisfaction of physical education. The results of the study were promising for the increase of orientation at work, for the perceptual ability and the satisfaction of the exercise. In the same study was observed a reduction of orientation in ego after the end of the program.

In addition a series of studies (Hagger, Chatzisarantis & Biddle, 2002; Papacharisis, Simou & Goudas, 2003; Parish & Treasure, 2003; Standage, Duda & Ntoumanis, 2003), have shown that the orientation at work was associated with higher levels of self-determined forms of mobilization. Furthermore, they have shown that factors such as orientation to work (work, learning) and intentions for future participation in physical activity programs are positively associated with self-determined and negatively with non-self-determined forms of mobilization.

## 5. CONCLUSIONS

It was found that the teaching approaches of interdisciplinary programs have significantly improved the behaviors of students in the experimental group compared with the behavior of students in the control group, verifying the initial assumptions. Specifically, after the teaching approaches of interdisciplinary programs it was observed improvement in the orientation in the subscale of ego (decreased egocentrism) and in the orientation at work (motivation at work and learning was increased) more significantly in the experimental group than in the control group.

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